

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1x.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012989**Date Inspected:** 13-Apr-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1100**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name:	Tom Pasqualone and Jim Cunningham			CWI Present:	Yes	No	
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No	N/A
				Delayed / Cancelled:	Yes	No	N/A
Bridge No:	34-0006			Component:	Orthotropic Box Girder		

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG L3E/L4E plate 'E2' (7880 to 10000mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 and Jin Quan Huang ID #9340 perform CJP groove (splice) welding fill to cover pass. The welder was observed welding in the 3G (vertical) position utilizing an automatic dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3042B-1. The joint being welded has a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 150 degree Fahrenheit using Miller Proheat 35 Induction Heating System located at the other side of the plate prior welding. During welding, ABF Quality Control (QC) Tom Pasqualone was noted monitoring the welding parameters of the welder. QA performed parameter readings during welding with the following results; 242 amperes, 24.3 volts and 230mm per minute travel speed which are deemed acceptable to contract specifications. At the end of the shift, ABF welders have completed welding the cover of the splice butt joint in this area.

QA randomly observed ABF/JV qualified welders Rory Hogan (ID #3186) and Jeremy Dolman (ID #5042) perform CJP groove (splice) back welding fill to cover pass on Orthotropic Box Girder (OBG) L2E/L3E plate 'C1' (0 to 5270mm / outside). The welders were observed welding in the 4G (overhead) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3040A-4. The welder was using a

WELDING INSPECTION REPORT

(Continued Page 2 of 2)

track mounted welder holder assembly that is remotely controlled. The joint being welded has the backing bar gouged using the Esab Plasma Arc machine and was ground smooth. The gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was preheated to greater than 200 degree Fahrenheit using Miller Proheat 35 Induction Heating System prior welding and the vicinity was properly protected from wind. During welding, ABF Quality Control (QC) Jim Cunningham was noted monitoring the welding parameters of the welder.

During the work shift, QA observed that the ABF welding personnel failed to maintain the minimum required preheat of 93.3°C (200°F) after welding had been started. It was noted that on one side of the weld where the heater blanket is located the preheat temperature of the plate was noted greater than 200 degree Fahrenheit whereas the other side of the weld wherein there is no heater blanket the preheat temperature was 134 to 150 degree Fahrenheit.

After the welders were informed about the insufficient preheat, they immediately moved the heater blanket on top of the weld and waited until the preheat went back to >200 degree Fahrenheit before they resume welding. QA had informed ABF QC Jim Cunningham about the drop of temperature in preheat maintenance during the grinding/cleaning of weld pass by the welders. QA also informed ABF QC that due to this incident an incident report will be issued.



Summary of Conversations:

As stated above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Mohammad Fatemi (916) 227-5298, who represents the Office of Structural Materials for your project.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer